

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Wu, et al.

Serial No.: 09/932,253

Filed: August 16, 2001

For: **Formation of an Optical Component**



Group No.: 1763

Examiner: Roberts P.Culbert

Docket No. LIGHT2260

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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DECLARATION BY JOAN WANG UNDER 37 CFR 1.132

Sir:

I, Joan Fong, hereby declare and state as follows:

1. I am listed as an inventor for this invention.
2. I have employed a Centura DPS DT from Applied Materials, Inc. to etch silicon under the conditions set forth in Table 1.

Coil Power	700 W
Coil Frequency	12.56 MHz
Bias Power	30 W
Bias Frequency	400 KHz
SCCM SF ₆	20
SCCM HBr	40
SCCM O ₂	10
Ratio SF ₆ :HBr:O ₂	1:2:0.5
Pressure	15 mT

Table 1

3. The etch performed under the conditions set forth in Table 1 resulted in formation of a surface having a smoothness of ~250 nm.

4. The attached picture is a photograph of the surface formed by performing the etch under the conditions set forth in Table 1.

5. I have employed a Centura DPS DT from Applied Materials, Inc. to etch silicon under the conditions set forth in Table 2.

Coil Power	700 W
Coil Frequency	12.56 MHz
Bias Power	30 W
Bias Frequency	400 KHz
SCCM SF ₆	20
SCCM HBr	40
SCCM O ₂	17
Ratio SF ₆ :HBr:O ₂	1:2:0.85
Pressure	15 mT

Table 2

6. The etch performed under the conditions set forth in Table 2 resulted in formation of black silicon.

7. I hereby declare that all statements made herein of my own knowledge are true, and the statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted

Date: 1/8/04

Joan Fong



